

Simulation Control Graphical User Interface Logging Report

Personal space flight has always intrigued me. I dreamt of an artificial gravity spacecraft complete with warp drive that take you and a few of your friends and family to distant galaxy maybe to go see an exploding super nova or orbiting a Gama ray buster. It might some time before such a craft could be build but when I heard NASA was to visit our campus for a recruitment session, I knew I had to attend. NASA was the place that I thought people would dare to dream such outlandish things like building spaceships that could take us to the end of the universe. I brushed up my resume and attended the session. I was impressed to see how many opportunities in different disciplines there were. Not every opportunity needed people that interested in the space science endeavors directly. Out of all of these opportunities fortunately there was one for which I could interview. I was going to work for NASA the upcoming summer.

When I arrived here at NASA I was overwhelmed. There was so much to see. There was so much going on. It occurred to me that I was going to be a part of all of this. I was going to leave behind a contribution. I was excited to get started on my project and learn the ins and outs of what goes on a day-to-day basis at NASA.

One of the many tasks of my project was to revise the code of the Simulation Control Graphical User Interface (SIM GUI) to enable logging functionality to a file. This will give other software engineers better understanding of what the various software components are doing including determining the cause of bugs and errors. The descriptiveness of the logging could be tailored to the user of the software and/or software engineers depending on some values passed to the logging object. This shortens the time between when an issue is detected and a solution is implemented. An engineer will not have to invest as much time debugging code. I was also tasked with developing a script that directed the startup and initialization flow of the various LCS software components. This makes sure that a software component will not spin up until all the appropriate dependencies have been configured properly. This is vital in maintaining system wide stability and data integrity of the whole software solution. Also I was able to assist hardware modelers in verifying the configuration of models after they have been upgraded to a new software version. I developed some code that analyzes the MDL files to determine if any error were generated due to the upgrade process. Another one of the projects assigned to me was supporting the End-to-End Hardware/Software Daily Tag-up meeting. Every morning I meet with key stakeholder to discuss the status of LCS as well as future road map activities. This provided great insight into inner working of the project at large and understanding of how the product groups will integrate the various components. These projects provided me with the opportunity to utilize my JAVA skills, in which the SIM Control GUI is written, as well as learning NetBeans, which is the IDE used to edit the SIM Control GUI.

It also allowed me to learn BASH scripting language and gain familiarity with the Linux (Red Hat Enterprise Linux) environment, as this was the language and environment used respectively to make the server initialization script.

My experience at NASA has given me a better understanding how developing code in a group setting is different from developing something on your own. Prior to this internship I never had to deal with the complexity of maintaining code throughout its various versions, iterations and contributors. This has caused me to appreciate good team dynamics and graceful partnerships. These are the things that I will be looking for in the organization that will be ultimately starting my career with. The experience of working in a large team has definitely prepared me for any organization that I will join.

Dreams of building something, creating something, pushing the boundaries of what is possible is what have always drove my interests. NASA as an organization I believe shares these dreams. Hopefully I will be able to join the team on permanent basis so that continue on the pursuit.

I give consent to NASA Florida Space Grant Consortium to use this written report, allowing the to use some of the content from your reports to showcase your project to our State's Congressional delegates and NASA HQ

Karl Hewling